

**MOORESTOWN TOWNSHIP PUBLIC SCHOOLS
MOORESTOWN, NEW JERSEY**

*Elementary Schools
Science Department*

**Science Curriculum
Grade 3**

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Course Description and Fundamental Concepts

Science in third grade helps students formulate answers to questions such as: “What is typical weather in different parts of the world and during different times of the year? How can the impact of weather-related hazards be reduced? How do organisms vary in their traits? How are plants, animals, and environments of the past similar or different from current plants, animals, and environments? What happens to organisms when their environment changes? How do equal and unequal forces on an object affect the object? How can magnets be used?”

- Students are able to organize and use data to describe typical weather conditions expected during a particular season.
- By applying their understanding of weather-related hazards, students are able to make a claim about the merit of a design solution that reduces the impacts of such hazards.
- Students are expected to develop an understanding of the similarities and differences in organisms’ life cycles. An understanding that organisms have different inherited traits, and that the environment can also affect the traits that an organism develops, is acquired by students at this level.
- In addition, students are able to construct an explanation using evidence for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.
- Students are expected to develop an understanding of the types of organisms that lived long ago and also about the nature of their environments.
- Students are expected to develop an understanding of the idea that when the environment changes some organisms survive and reproduce, some move to new locations, some move into the transformed environment, and some die.
- Students are able to determine the effects of balanced and unbalanced forces on the motion of an object and the cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other. They are then able to apply their understanding of magnetic interactions to define a simple design problem that can be solved with magnets.

The crosscutting concepts of patterns; cause and effect; scale, proportion, and quantity; systems and system models; interdependence of science, engineering, and technology; and influence of engineering, technology, and science on society and the natural world are called out as organizing concepts for these disciplinary core ideas. In the third-grade performance expectations, students are expected to demonstrate grade-appropriate proficiency in asking questions and defining problems; developing and using models, planning and carrying out investigations, analyzing and interpreting data, constructing explanations and designing solutions, engaging in argument from evidence, and obtaining, evaluating, and communicating information. Students are expected to use these practices to demonstrate an understanding of the core ideas.

[New Jersey Student Learning Standards \(NJSLs\)](#)

Subject/Content Standards

Include grade-appropriate subject/content standards that will be addressed

Standard #	Standard Description
3-LS2-1	<i>Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object</i>
3-LS4-1	<i>Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago</i>
3-LS4-3	<i>Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.</i>
3-L-S4-4	<i>Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.</i>
3-PS2-1	<i>Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.</i>
3-PS2-2	<i>Make observations and/or measurements of an object’s motion to provide evidence that a pattern can be used to predict future motion.</i>
3-PS2-3	<i>Ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other.</i>
3-PS2-4	<i>Define a simple design problem that can be solved by applying scientific ideas about magnets.</i>
3-ESS2-1	<i>Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.</i>
3-ESS2-2	<i>Obtain and combine information to describe climates in different regions of the world.</i>
3-ESS3-1	<i>Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.</i>
3-LS1-1	<i>Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.</i>
3-LS3-1	<i>Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms.</i>
3-LS3-2	<i>Use evidence to support the explanation that traits can be influenced by the environment.</i>

3-LS4-2	<i>Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.</i>
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<u>English Companion Standards</u>		
Unit Addressed	Standard #	Standard Description
1, 2, 3, 4	RI.3.1	<i>Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers. (3-LS2-1)</i>
1, 2, 3, 4	W.3.1	<i>Write opinion pieces on topics or texts, supporting a point of view with reasons. (3-LS2-1)</i>
1, 2, 3, 4	RI.3.3	<i>Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect. (3-PS2-3)</i>
2, 3	RI.3.8	<i>Describe the logical connection between particular sentences and paragraphs in a text (e.g., comparison, cause/effect, first/second/third in a sequence). (3-PS2-3)</i>
2, 4	W.3.7	<i>Conduct short research projects that build knowledge about a topic. (3-PS2-1),(3-PS2-2)</i>
2, 3	W.3.8	<i>Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories. (3-PS2- 1),(3-PS2-2)</i>
1, 2, 3, 4	SL.3.3	<i>Ask and answer questions about information from a speaker, offering appropriate elaboration and detail. (3-PS2-3)</i>
1, 4	RI.3.7	<i>Use the information gained from illustrations (e.g., maps, photographs) and the words in a text to demonstrate an understanding of the text (e.g., where, when, why, and how key events occur). (3-LS1-1)</i>
1, 4	SL.3.5	<i>Create engaging audio recordings of stories or poems that demonstrate fluid reading at an understandable pace; add visual displays when appropriate to emphasize or enhance certain facts or details. (3-LS1-1)</i>
1, 2, 3, 4	RI.3.2	<i>Determine the main idea of a text; recount the key details and explain how they support the main idea. (3-LS3-1),(3-LS3-2)</i>
1, 2, 3, 4	W.3.2	<i>Write informative/explanatory texts to examine a topic and convey ideas and information clearly. (3-LS3-1),(3-LS3-2)</i>

2, 3	SL.3.4	<i>Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace. (3-LS3-1),(3-LS3-2)</i>
1, 2, 3, 4	RI.3.9	<i>Compare and contrast the most important points and key details presented in two texts on the same topic. (3-ESS2-2)</i>
1, 2, 3, 4	RI.5.1	<i>Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. (3-5-ETS1-2)</i>
1, 2, 3, 4	RI.5.7	<i>Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently. (3-5-ETS1-2)</i>
2, 3	RI.5.9	<i>Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably. (3-5-ETS1-2)</i>
1, 2, 3, 4	W.5.7	<i>Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic. (3-5-ETS1-1),(3-5-ETS1-3)</i>
1, 2, 3, 4	W.5.8	<i>Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources. (3-5-ETS1-1),(3-5-ETS1-3)</i>
1, 2, 3, 4	W.5.9	<i>Draw evidence from literary or informational texts to support analysis, reflection, and research. (3-5-ETS1-1),(3-5-ETS1-3)</i>

21st-Century Skills and Technology Integration (Standard 8)

List appropriate units below for which strands (A through F) will be addressed

Standard 8.1 (K-12)		Educational Technology: <i>All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.</i>
Unit Addressed	Strand Letter	Standard Description
3	Strand A	Technology Operations and Concepts: <i>Students demonstrate a sound understanding of technology concepts, systems, and operations.</i>

1, 2, 4	Strand B	Creativity and Innovation: <i>Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.</i>
1, 3	Strand C	Communication and Collaboration: <i>Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.</i>
4	Strand D	Digital Citizenship: <i>Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.</i>
2, 3	Strand E	Research and Information Fluency: <i>Students apply digital tools to gather, evaluate, and use information.</i>
2	Strand F	Critical thinking, problem-solving, and decision making: <i>Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.</i>
Standard 8.2 (K-5)		Technology Education, Engineering, Design, and Computational Thinking - Programming: <i>All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking, and the designed world as they relate to the individual, global society, and the environment.</i>
2, 3	Strand A	The Nature of Technology: Creativity and Innovation: <i>Technology systems impact every aspect of the world in which we live.</i>
	Strand B	Technology and Society: <i>Knowledge and understanding of human, cultural, and societal values are fundamental when designing technological systems and products in the global society.</i>
2	Strand C	Design: <i>The design process is a systematic approach to solving problems.</i>
	Strand D	Abilities for a Technological World: <i>The designed world is the product of a design process that provides the means to convert resources into products and systems.</i>

2, 4	Strand E	Computational Thinking: Programming: <i>Computational thinking builds and enhances problem-solving, allowing students to move beyond using knowledge to creating knowledge.</i>
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Career Ready Practices (Standard 9)

List appropriate units below for which CRPs will be addressed

Unit Addressed	Standard #	Standard Description
	CRP1	<i>Act as a responsible and contributing citizen and employee.</i>
2, 3, 4	CRP2	<i>Apply appropriate academic and technical skills.</i>
3 4	CRP3	<i>Attend to personal health and financial well-being.</i>
1, 2, 3, 4	CRP4	<i>Communicate clearly and effectively and with reason.</i>
3, 4	CRP5	<i>Consider the environmental, social, and economic impacts of decisions.</i>
1, 4	CRP6	<i>Demonstrate creativity and innovation.</i>
3	CRP7	<i>Employ valid and reliable research strategies.</i>
1, 2, 3, 4	CRP8	<i>Utilize critical thinking to make sense of problems and persevere in solving them.</i>
	CRP9	<i>Model integrity, ethical leadership, and effective management.</i>
	CRP10	<i>Plan education and career paths aligned to personal goals.</i>
1, 2, 3, 4	CRP11	<i>Use technology to enhance productivity.</i>
1, 2, 3, 4	CRP12	<i>Work productively in teams while using cultural global competence</i>

Interdisciplinary Connections

List any other content standards addressed as well as appropriate units

Visual & Performing Arts Integration ([Standard 1](#))

List appropriate units below for which standards (1.1 through 1.4) may be addressed

Unit Addressed	Standard #	Standard Description
2, 3	Standard 1.1	The Creative Process: All students will demonstrate an understanding of the elements and principles that govern the creation of works of art in dance, music, theatre, and/or visual art.
	Standard 1.2	History of the Arts and Culture: All students will understand the role, development, and influence of the arts throughout history and across cultures.
1, 3	Standard 1.3	Performing/Presenting/Producing: All students will synthesize those skills, media, methods, and technologies appropriate to creating, performing, and/or presenting works of art in dance, music, theatre, and/or visual art.
	Standard 1.4	Aesthetic Responses & Critique Methodologies: All students will demonstrate and apply an understanding of arts philosophies, judgment, and analysis to works of art in dance, music, theatre, and/or visual art.

Other Interdisciplinary Content Standards

List appropriate units below for any other content/standards that may be addressed

Unit Addressed	Content / Standard #	Standard Description
1, 2, 4	MP.2	Reason abstractly and quantitatively. (3-PS2-1)
2, 3	MP.5	Use appropriate tools strategically. (3-PS2-1)
2, 3, 4	3.MD.A.2	Reason abstractly and quantitatively. (3-PS2-1) 3.MD.A.2 Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem. (3-PS2-1)
1, 2, 3, 4	MP.4	Model with mathematics. (3-LS1-1)

1, 4	3.NBT	<i>Number and Operations in Base Ten (3-LS1-1)</i>
1, 4	3.NF	<i>Number and Operations—Fractions (3-LS1-1)</i>
3, 4	3.MD.B.3	<i>Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs. (3-LS4-2),(3-LS4-3)</i>
2, 3	MP.4	<i>Model with mathematics. (3-LS3-1),(3-LS3-2)</i>
2, 3	3.MD.B.4	<i>Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters. (3-LS3-1),(3-LS3-2)</i>
3	3.MD.A.2	<i>Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem. (3-ESS2-1)</i>
1, 4	3-5.OA	<i>Operations and Algebraic Thinking (3-5-ETS1-1),(3-5-ETS1-2)</i>

Pacing Guide (All Dates are approximate based on the school calendar)

Unit/ Topic	Month (w/Approx number of Teaching Days)
Unit 1 Environment and Living Things	September (~19 days)
Unit 1 Environment and Living Things	October (~19 days)
Unit 1 Environment and Living Things	November (~16 days)
Unit 2 Force and Motion	December (~15 days)
Unit 2 Force and Motion	January (~18 days)
Unit 3 Weather and Climate	February (~18 days)
Unit 3 Weather and Climate	March (~15-20 days)
Unit 4 Life Cycle and Traits	April (~15-20 days)
Unit 4 Life Cycle and Traits	May (~18 days)
Unit 4 Life Cycle and Traits	June (~15 days)

[Units](#)

Contact Content Supervisor for Unit Details